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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/762,519

01/23/2004

Dong-Hoon Lee

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EXAMINER

FOTAKIS, ARISTOCRATIS

ART UNIT

PAPER NUMBER

2611

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/762,519	Applicant(s) LEE ET AL.	
	Examiner Aristocratis Fotakis	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01/23/2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 - 19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some    \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Specification***

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The Abstract is less than 50 words. Appropriate correction is required.

### ***Claim Objections***

Claim 17 is objected to because of the following informalities: Typing informality in Line 2 of claim 17, "psuedonoise". Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 10 recites the limitation "the clock signal" in Line 1. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 – 8 and 11 - 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Terasawa et al. (US Pub 20030147365).

Re claims 1, 5, 13 and 14, Terasawa teaches of an integrated cell searcher (Fig.3 and Fig.4, Paragraph 0039) comprising: a first code generator (#430, Fig.4 and Fig.6) which generates first codes (*PN codes*) for cell searching in a non-synchronous mode (W-CDMA, Paragraphs 0046 and 0055); a second code generator (#430, Fig.4 and Fig.6) which generates second codes (*PN codes*) for cell searching in a synchronous mode (cdma2000, Paragraphs 0046 and 0055); a signal selector which receives the first codes and the second codes, and selectively outputs either of the first codes or second codes, in response to a mode selection signal (Paragraph 0055, Lines 15 – 18); and a plurality of correlators (#420, Fig.4) which receive and correlate a code from a base station (#410, Fig.4) and the selected codes (#430, Fig.4), respectively (Paragraph 0063, Lines 10 – 12).

Re claims 2, 6 and 17, Terasawa teaches of the first codes, second codes and code from the base station are pseudonoise (PN) codes (Paragraph 0055).

Re claims 3, 11 and 15, Terasawa teaches of each of the plurality of correlators further comprising: a despreader (#720, Fig.7) which despreads the code received from a base station (#710, Fig.7) and the codes output from the signal selector (#430, Fig.4 and Fig.7) and outputs a despreading result (Paragraph 0061); a synchronization accumulative register which receives signals from the despreader, accumulates the received signals in synchronization with a clock signal, and stores an accumulation

result (#940, Fig.9) (coherent accumulator, Paragraph 0065); an energy converter (#450, Fig.4 and Fig.9) which converts a signal output from the synchronization accumulative register into an energy signal (Paragraph 0050); and a non-synchronization accumulative register (#460, Fig.4 and Fig.11) which accumulates signals output from the energy converter and stores an accumulation result (Paragraph 0095).

Re claims 4, 12 and 16, Terasawa teaches of a peak detector (#470, Fig.4 and Fig.12) which receives correlation results from the correlators and identifies which among the selected codes (#1210 - #1240, Fig.12, Paragraphs 0101 - 0102) yielded the best correlation and outputting a detection result (#480, Fig.4 and #1350, Fig.13, Paragraph 0104).

Re claims 7 and 19, Terasawa teaches of the first mode corresponds to UTMS and the second mode corresponds to CDMA (Paragraphs 0046 and 0055).

Re claim 8, Terasawa teaches of the plurality of correlators are caused to perform cell searching for the first communication mode or the second communication mode depending on whether the first codes or the second codes are selected by the signal selector (Paragraph 0055).

Art Unit: 2611

Re claim 18, Terasawa teaches of the first mode is a non-synchronous mode (WCDMA) and the second mode is a synchronous mode (CDMA2000) (Paragraph 0046).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Terasawa in view of Cripps et al. (US 4,930,140).

Terasawa teaches all the limitations of claim as well as the selector which receives and selectively outputs either the selected ones of the first codes or the second codes, in response to a mode selection signal (see claim 5) which are input to the plurality of correlators (Paragraph 0063, Lines 10 – 12). However, Terasawa does not specifically teach of a plurality of N-bit registers, which serially receive and buffer the first codes and a plurality of multiplexers which selectively output ones from among the first codes stored in the N-bit registers in synchronization with a clock signal.

Cripps teaches of a code division multiplex system for use in a spread spectrum communication system utilizes selectable length spread spectrum spreading code sequences. At the receiver correlator, a selectable length differential decoder is set to be responsive to a spread spectrum spreading code sequence having a length substantially equal to the length of the encoded spread spectrum spreading code sequence (Abstract). The receiver correlator comprises of an N-bit register (#104, Fig.4), which serially receive and buffer the first code (#100) and a multiplexer (#108),



which selectively output ones from among the first codes (#110 – #116) stored in the N-bit register in synchronization with a clock signal (#101)(Col 6, Lines 15 – 60).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used a plurality of registers and multiplexers as used by Cripps correlator to the plurality of correlators of Terasawa in order to improve system channel discrimination between different length spreading code sequences.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aristocratis Fotakis whose telephone number is (571) 270-1206. The examiner can normally be reached on Monday - Thursday 7 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2611

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AF



CHIEH M. FAN  
SUPERVISORY PATENT EXAMINER